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## Installation Instructions: Epson 1400 CFS



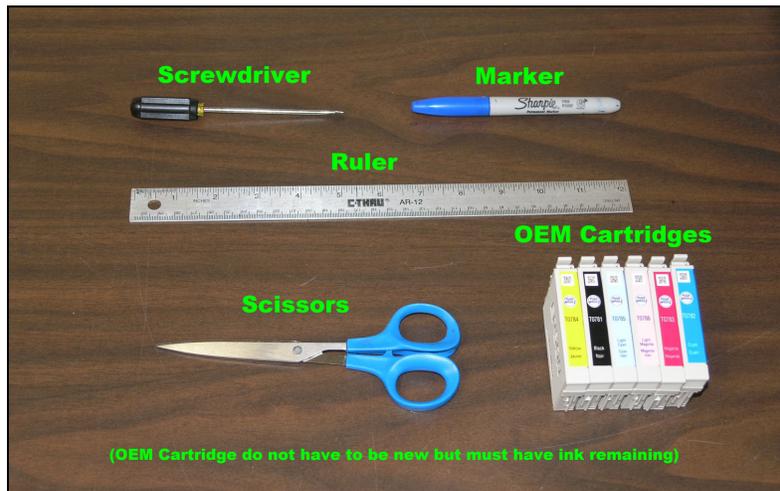
Epson 1400 with MIS CFS Installed



\*A perfect print with OEM cartridges is a must\*

### Prerequisite -

Before starting this installation, you **MUST** test your printer to make sure it is printing 100% correctly. The best way to do this is to first print a Nozzle pattern, using the printer utility software provided by Epson. Once a perfect nozzle pattern is achieved, print 5 copies of the MIS *purge6.tif* image using the Plain Paper and 360 dpi settings on the printer. All 5 pages must print without banding or skipping (white spaces). If your printer cannot do this, **do not** install the CFS. Run no more than 3 cleaning cycles or get new cartridges. Do not proceed until you can pass these tests. The Purge6 image can be found on the diskette included with your system. If you have a Mac you can download it from our website. You can also get it from the Helpdesk Download Library.



Tools needed

### Tools & Materials Needed -

- MIS CFS System, ink, and a working Epson 1400 printer
- Ruler or measuring tape
- Pair of scissors
- Alcohol and some paper towels
- Flat tip screw driver
- OEM Cartridges (For testing printer)
- Some paper to print on

### Step 1

If you purchased your system prefilled, go to Step 2. If you purchased an empty CFS unit, then vacuum fill the cartridges with the ink that came with the system or the ink of your choice. Follow the instructions that are included with the vacuum pump, go to the pages near the end of this document. When this is complete, go to Step 2.

### Step 2

On the printer, push the **Ink button** to move the cartridges to the **Replacement** position.



Ink Replacement Button

While in this position, **pull the power plug out of the wall**. Next, remove the cartridges. The cartridges ride in a black cartridge carriage and are secured by a gray cover that must be raised in order to remove the cartridges.



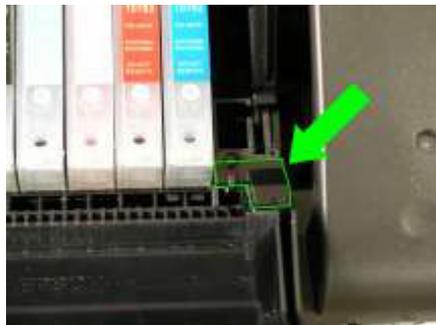
Unplug printer from wall

### Step 3

The cartridge cover also needs to be removed. This is the gray colored cover that holds the cartridges down when they are installed in the printer.

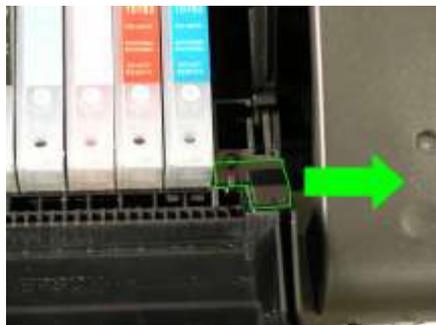
First, locate the cartridge cover retaining clip, it is located on top of the printer carriage.

**INSTALLATION NOTE** -. Attempts to remove this cover may result in damage to the cover. The absence of this cover does **NOT** prevent normal operation of the printer in any way.



Cartridge cover clip

Next, carefully pry the clip forward so that it will unlock from the printer carriage and release the carriage cover.



Gently pry clip forward to remove

When the clip releases it can be removed. Please note that due to the design of this clip it may be damaged during removal thus making it impossible to reinstall the carriage cover in the future. If your clip does get damages the printer will still operate normally.

With the cartridge cover retaining clip removed you can easily remove the carriage cover exposing the OEM cartridges that are installed in the printer.



Remove cover and store in a safe place

**Note:** We recommend storing the cover and clip that were removed in Step 3 in a zip lock storage bag so that they do not become separated and lost.

#### Step 4

Remove the OEM cartridges from the printer and store them in a zip lock bag. It is best to save these cartridges so that they can be used for diagnostic purposes or if the printer must be sent in for service.



Remove OEM cartridges

#### Step 5

The next step is to mark the location of the 1400 Bridge Bracket. This bracket must be accurately located for proper system operation and to avoid complications.

Measure 6 1/2" from the back edge, left side, of the larger two openings in the top of the printer housing. Using a marker or pencil place a line across the center divider between the two access holes. This is the location of the top of the 1400 Bridge Bracket.

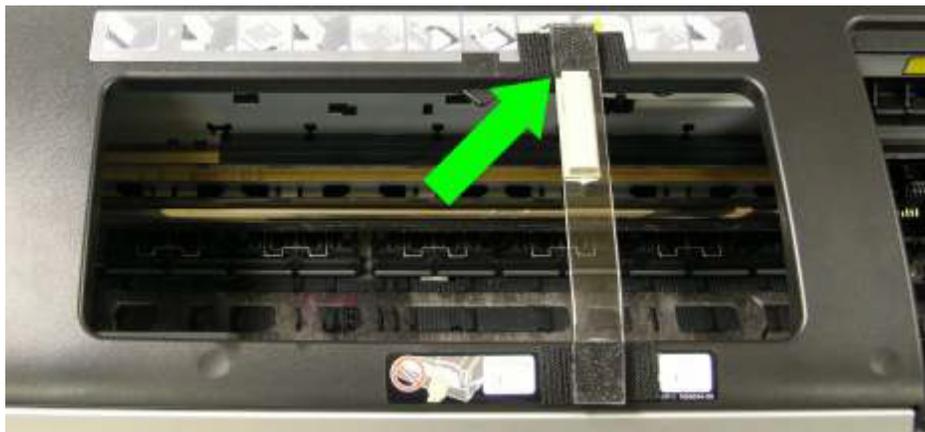


Place mark 6 1/2" from the back of the larger opening



Close-up of measurement

After marking the location of the back edge of the clip, the 1400 bridge bracket can be installed. When installing the bracket, be sure to line up the left most edge of the clip with the mark that you have just made. Note that the bent part of the bracket should be toward the front of the printer.



Install 1400 Bridge Bracket using the mark to locate the left edge

### Step 6

The next step is to mark the location of the Beige Clip. This clip will be installed in line to the right of the 1400 bridge bracket.



Mark location for Beige Clip

Install the clip with the open side facing the back of the printer and the hinge toward the front of the printer housing. The back of the clip should be  $1\frac{1}{2}$ " from the rear groove in the housing and the right side of the clip should be touching the groove in the housing.

Finally, check that the Beige Clip and 1400 Tube Clip are in line (parallel with the front and back of the printer openings) with a straight edge or ruler.



Verify 1400 Tube Clip and Beige Clip are in line

### Step 7

Move the cartridge carriage to the opening in the center of the printer housing by pushing it from the right.



Move carriage with hand over to the left most access hole (center of printer)

**Note:** Before continuing, check that each CFS cartridge has a chip, as cartridges without a chip can damage the printer.

Install the CFS cartridge through the left opening in the printer housing. As the cartridges are installed, listen for a click to ensure that they are properly seated.



Install CFS cartridges

Using your hand, push the carriage all of the way to the left side of the printer. This will help in positioning the tubes into the clips that were installed in Steps 5 and 6.

### **Step 8**

Ensure that the 1400 Tube Guide and Beige Clips are open and that the carriage is pushed all of the way to the left inside the printer. Guide the tubes through the 1400 Tube Clip and Beige Clip. You will want to make sure that the tubes do not twist or bend as this will confuse the color order and interfere with proper bottle connection. Note that the cyan tube is to the front with the black toward the back of the printer.



Guide the tubing through the clips so that it does not twist or flip

First, route the tubing into the 1400 Tube Clip so that there is not any slack on the left side of the clip, but not tight enough so as to stretch the tubing. Close the 1400 Tube Clip. Next, route tubing into Beige Clip so that the tubing does not sag between the 1400 Tube Clip and the Beige. Finally, Close the Beige Clip.

Test for proper tube position by moving the carriage from left to right and back. If at any point the tubing becomes tangled or there is any drag on the carriage you will need to move the carriage back to the left and repeat Step 8.

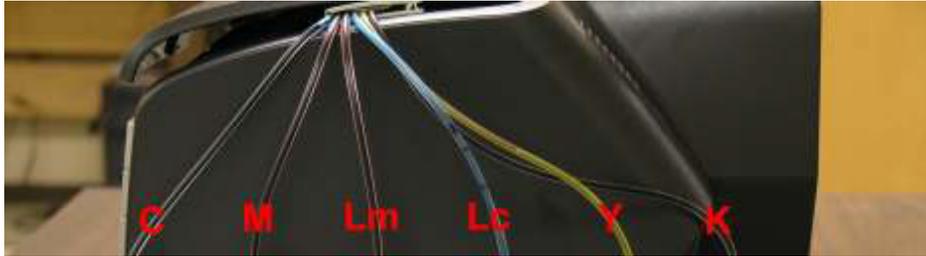


Proper tube installation

### **Step 9**

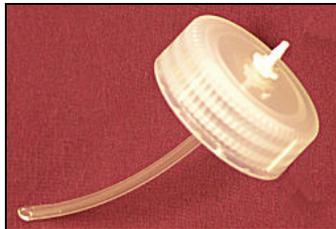
Now that the CFS is installed in the printer, and proper tube position has been verified we can un-web the tubing to the right of the beige clip. To un-web the tubing, grasp two

individual tubes that are next to each other and peel apart. Once you have completed unwebbing verify that the tubing is in the correct order. Front to back, (C, M, Lm, Lc, Y, K).



Unweb the tubing by peeling each tube apart up to the Beige Clip, then verify color order

Next, install the caps with fittings onto the ink bottles supplied with your CFS. If these caps were installed during Step 1 (filling an empty CFS) then they will already be installed.



Install the caps with fittings onto full bottles of ink

Using the Velcro dots provided, install the bottles in correct ink order below.

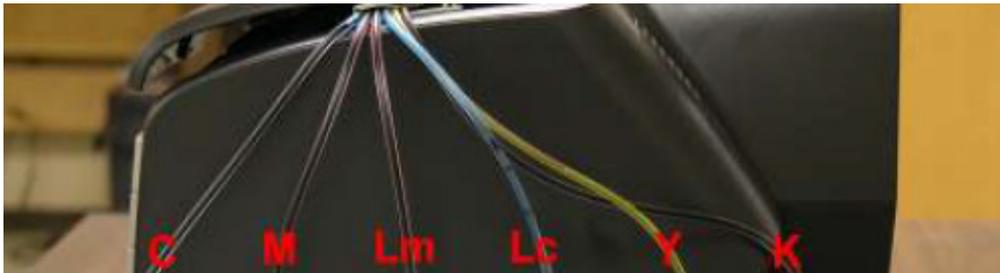


- Bottle order front to back (C, M, Lm, Lc, Y, K) -



Place the bottles on the right side of the printer in the order shown above

Before trimming each tube and connecting them to the fittings on the bottles, double check that your bottles and tubes are in the proper color order.



Recheck proper tube color of tubes coming as they come out of the Beige Clip

The tube lengths will need to be trimmed so that the tube will connect to the fitting on top of the bottle without having a large amount of slack. The best way to accomplish this is to pull the tube over next to the bottle and mark the tube with a ball point pen at the point where the tube and the bottom of the bottle cap meet.

Set up the bottles as shown, and work with one tube at a time, starting with the magenta tube. Test the length of this tube by placing it near the bottle, on the outside, and see if it is going to reach the bottom of the bottle cap. It should not be too short. If it looks like it is going to be too long, then mark the tube with a ball point pen at the spot you think it should be cut.

Remove the white plug from the end of the tube and cut the tube with scissors where you placed the mark. After cutting the tube immediately connect it to the bottle. **SAVE THE WHITE PLUGS** as they will be needed if you ever remove the CFS System from your printer.

**Make sure the correct color tube goes onto the correct color ink bottle. A mistake here will ruin the whole system and you will need to purchase an empty cartridge set w/ tubes.**

The tubes should make a nice smooth curve to the bottles. Don't let your tubes make any vertical loops. The transition into the bottles should be smooth.

### **Step 10**

Using your hand push the carriage all of the way to the right so that it resembles the photo below.



Ensure that carriage is all of the way to the right

Next, plug the printer back into the wall outlet.



Plug printer into wall outlet

Finally, press and hold the power button to turn the printer on.



Turn on printer

At this point the printer will run through its initial diagnostics and should run a cleaning cycle. If at any point the tubing becomes tangled or the printer gives a red flashing light, unplug the printer from the wall and double check the tube positioning in the clips. Tangling is usually the result of the tubes being too loose, while a red flashing light indicates the tubing is too tight.

If the printer runs through this check and gives a solid red light, push the **Ink button** to move the cartridges to the **Replacement** position, and remove/reinstall the CFS cartridges before plugging the printer back in and restarting. If this does not resolve the issue please contact MIS Technical Support for further assistance (support@inksupply.helpserve.com).

If the printer runs through its initial checks and does not give a red light, then print a copy of the purge6.tif to ensure that the printer is not banding. It is often necessary to run several cleaning cycles to get a perfect output, but please note that no more than 3 cleaning cycles should be run at one time. If it is necessary to run more than 3 cleaning cycles you must run a print (purge6.tif) before running the next series of cleaning cycles.

### **The Care and Feeding of a CFS -**

There are a couple of things you should know that will keep your system running trouble free.

These systems work best if they are used frequently, daily is best, but every few days is more important. If you are an infrequent printer or only print once or twice a week, then you should install our AUTOPRINT program (download it for free from our [CFS page](#)). Autoprint will make a printout using our Purge6 image everyday as long as you leave your computer and printer turned on.

If you have to do cleaning cycles, do them in groups of 3 and be certain to print something, we recommend a copy of the Purge6 pattern after every 3 cleaning cycles. This resets the printer firmware so that you get a medium, long, and short duration cleaning cycle. If you don't do this, you will only get short cleaning cycles after the 3rd one. Running several short cleaning cycles will cause nozzles to drop out. If you are still having problems after about 3 or 4 sets of 3 cleanings, then let the printer rest for a few hours or overnight and try again later. This has worked on many Epson printers in the past. It gives the air bubbles in the ink a chance to rise to the surface and get out of the printhead.

Don't let your ink bottles get empty. Refill them when they are at the 1/4 full level. Before pouring new ink into your bottle, transfer the ink that is left into a clean glass or jar. Then wash out the CFS ink bottle with soap and water. Then refill with leftover ink and new ink. This keeps algae from building up on the walls of the bottle and causing premature ink failure. An easier method is to order a spare set of empty bottles, and keep them on hand, clean and ready to use.

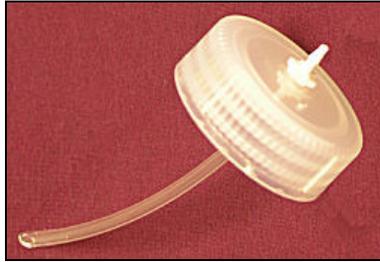
If an ink does not print. Remove the tube from the bottle, lift the cartridge out, and suck out a little ink, not more than 2 cc, to eliminate any air locks that may be present. Use the syringe and bottom fill adapter, then reinstall. If you have all colors printing but you are

having problems getting a perfect nozzle pattern after several cleaning cycles, then let the printer rest overnight and try a few cleaning cycles in the morning.

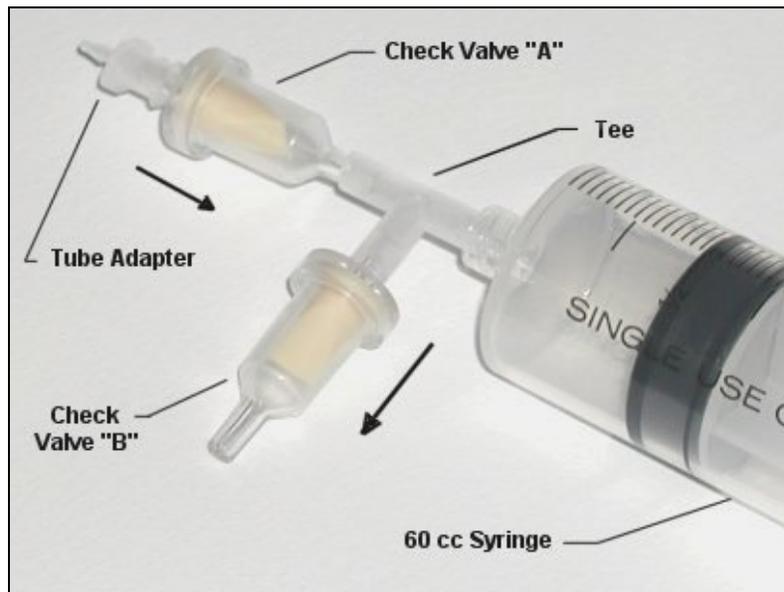
For additional technical assistance please read our [CFS Troubleshooting Guide](#) or visit our online [HelpDesk](#)

## Vacuum Filling An Empty CFS

Remove the caps from the ink bottles and replace them with the caps from the package supplied with your CFS system.



The vacuum pump must be assembled as shown in the below photo. Check valve direction is critical.



- Remove the white plugs from the end of each of the tubes.
- Attach the tube from the chamber that is going to be filled to the tube adapter on the vacuum pump.
- Pull back on the plunger, all the way. It takes a fair amount of force.
- Push the plunger back down to the bottom to expel air.
- Pull back on the plunger again, all the way and push down to expel air.
- After 3 or 4 pulls, the plunger should snap to the bottom if let go.
- Let the vacuum pump rest for about on minute. This is a leak test.

- After one minute, pull back on the plunger and let go. It should snap to the bottom on its own.
- If it does not go all the way down, then there may be a leak in one of the check valves or the CFS cart. Do not proceed until you can pass the leak test.
- Note, at no time does ink ever enter into the vacuum pump, only air.

With the vacuum pump fully pumped up and maximum vacuum achieved, do the following to fill cartridge.

- Grab the tube, about 1 inch up from the vacuum pump below the tube adapter fitting and fold it in half or pinch it.
- This traps the vacuum in the tube and CFS. Now remove the tube from the vacuum pump without letting the tube unfold. Keep pinching the tube. This is important.
- Plug the tube into the fitting on the top of the **correct ink bottle** for the position being filled.
- Release the fold in the. Ink should rush up the tube and into the cartridge.
- The ink level in the bottle should go down about 1/2 inch or more depending on cartridge size.
- After about 30 seconds the cartridge will be full.
- Remove the tubing from the fitting on the ink bottle and replace the white plug.

When the process is complete, fill the next chamber following the same procedure, but with a different color. Needless to say, that if you put the wrong color ink in the wrong chamber you will ruin the CFS cartridge, and they will need to be replaced.

After all chambers have been filled, let the cartridge sit on your bench, in its installed position, for about 2 hours before installing into the printer. If you lose some of the ink from the lines after they are filled, this is not a problem. As long as there is ink in the cartridge, the lines can be full or empty, it does not matter.